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PEACH ROSETTE

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Peach rosette is a disease of peach caused by a virus commonly known as peach rosette virus. The disease was noted in Georgia in 1890 and distinguished from peach yellows by Smith (4), who also ascertained that the causal entity was not a bacterium or fungus. It has since been reported in Alabama, South Carolina, Tennessee, West Virginia, Missouri, and Oklahoma, and more recently from Kentucky, Illinois, Indiana, Arkansas, and Kansas (3). Peach rosette has caused serious losses when present in peach orchards, but it is considered of minor importance when compared to other virus diseases of peach such as peach yellows, little peach, phony peach, and peach mosaic. The peach rosette virus has been shown to be distinct from other known peach viruses (1).

Among susceptible hosts in which symptoms occur, the following are noted: apricot, Prunus armeniaca L. varieties Moorpark, Royal and Wilson; sand cherry, _P. pumila L.; sour cherry, _P. cerasus L.; mazzard cherry, _P. avium L. ; chickasaw plum, P. angustifolia Marsh.; Japanese plum, P. salicina Lindl. varieties Kelsey, Ogon, Maynard, and Red June; damson plum, P. institia L.; almond, _P. amygdalus Batsch. Wilson apricot appears to be a symptomless carrier of the peach rosette virus (3), whereas McClintock (2) has shown that Marianna plum is immune to the peach rosette virus. Tobacco, Nicotiana glutinosa Ann., periwinkle, Vinca rosea L., and tomato, Lycopersicon esculentum Mill, have also shown to be susceptible hosts when the virus is transmitted via dodder, Cuscuta campestris Yuncker.

Trees affected with peach rosette generally die quickly, usually within a year following infection; the disease is thus largely self-eradicating. On the other hand, apricots and wild and cultivated plums are more resistant to the lethal effects of the virus than are peaches. The peach rosette virus is known to be transmitted only by budding and grafting. To date insects are not known to transmit the virus.

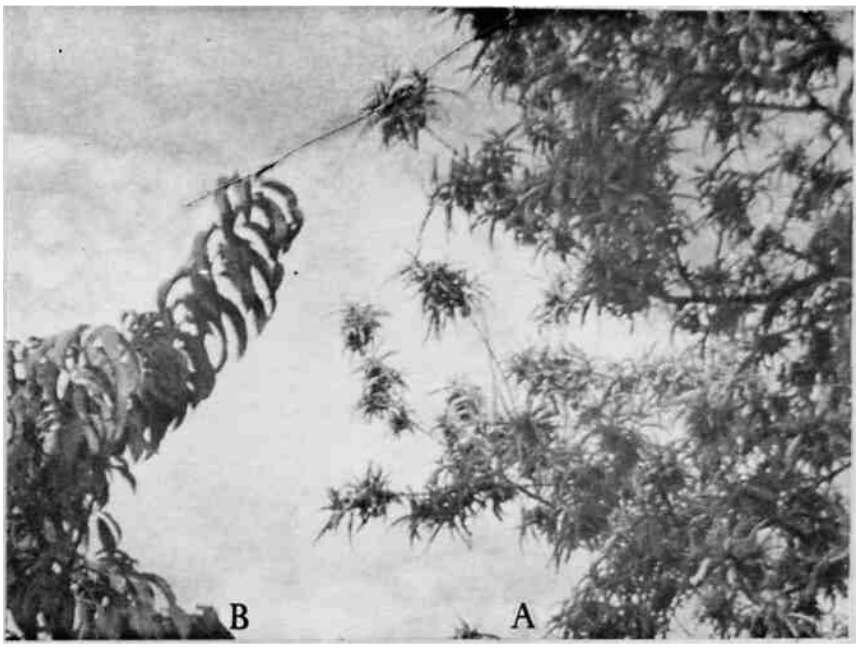

Fig. 1. Peach rosette of Elberta peach; A) infected tree (right), B) normal healthy tree (left).

SYMPTOMS. Peach trees infected with the rosette virus are characterized by either of two types of symptoms. The most familiar is the rosette-type of symptom and the other, sudden wilt and death. New growth of stems is shorter than normal due to shortened internodes. The leaves are dwarfed with a thickening and clearing of the veins, and become chlorotic (1). The first formed leaves develop red spots and fall in early summer, leaving only tufts of younger leaves at the branch tips (3) as shown in Fig. 1. Diseased trees seldom bear fruit of any kind (4). When young trees are infected near the growing points, they suddenly wilt and die without producing rosette-type symptoms. In contrast, when young trees are infected near the base, the rosette-type of growth is produced. Rosette symptoms also occur with resumption of growth following infection shortly before dormancy. All rosette-infected trees wilt and die after a short period of time (1).

CONTROL. The only effective control of the peach rosette disease is accomplished by diligent, systematic eradication of infected trees in orchards as well as native wild Prunus growing in the proximity of commercial production areas, particularly when symptoms are evident in the spring. If diseased trees are not removed from the orchards, despite the fact that no insects are known to be capable of transmitting the virus nor that any other natural means of spread has been determined, peach rosette is known to develop rapidly and reach serious levels, sometimes affecting entire orchards in 3 to 5 years (3).

Literature Cited

1. Kunkel, L. O. 1936. Immunilogical studies on the peach diseases, yellows, rosette, and little peach. Phytopathology 26:201-219.
2. McClintock, J. A. 1923. Peach rosette, an infectious mosaic. J. Agr. Res. 24:307-316.
3. McClintock, J. A., L. O. Kunkel, and H. H. Thornberry. 1951. U.S. Dept. Agr. Handbook 10. 276 p.
4. Smith, E. F. 1891. The peach rosette. J. Mycol. 6:143-148.